THE CHEMIST

APRIL 1951 VOLUME XXVIII No.4

—*Agusta Berne*

DR. MAURICE J. KELLEY

Chairman, New York Chapter

(See Page 125)

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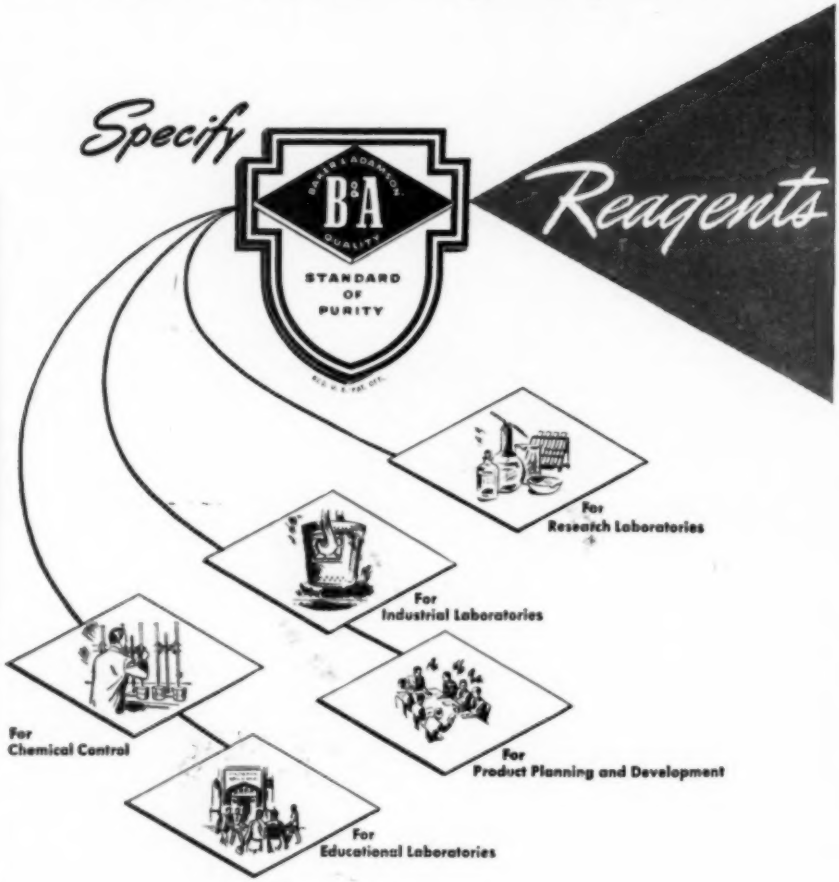

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SCHEDULED FOR EARLY ISSUES

Annual Meeting Papers (See Program, page 127)
Annual Reports
When a Chemist Writes, Edward Thomas
The Increasing Responsibilities of the Chemist, Ralph Lamenzo, F.A.I.C.

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Cover Picture

Dr. Maurice J. Kelley is chairman of the New York Chapter, AIC, and director, Industrial Development Laboratory, Nopco Chemical Company, Harrison, N.J. He was born in 1916 at Danielson, Conn., but received most of his education in Philadelphia, Pa., where in 1936 he was graduated with highest honors from LaSalle College. He then joined Nopco Chemical Company, and his research work in the field of synthetic surface-active agents led to several patents. After four years of night and Saturday study, Fordham University granted him the degree of M.S. Then followed a twenty-two-month leave of absence, during which Dr. Kelley, with the aid of a University scholarship, earned the Ph.D. at the University of Pennsylvania, with a thesis in the field of synthetic morphine substitutes. Returning in the summer of 1942 to Nopco Chemical Company, he continued his industrial research, being named chief chemist in 1944 and laboratory director in 1948.

Dr. Kelley became active in the affairs of the New York Chapter in 1946 as chairman of arrangements, a post he held for three years. He was secretary-treasurer of the Chapter for 1948-1950 and was elected Chapter chairman last May. He had just completed an assignment as chairman of arrangements for the National Annual Meeting, held May 11-12th, in New York. Dr. Kelley is also a Fellow of The American Association for the Advancement of Science and The Chemical Society (London), and a member of the American Chemical Society and the Society of Chemical Industry.

Upon his election, Dr. Kelley stated that the highest goal to which he could hope to lead the Chapter would be to maintain the progress brought about by his three predecessors, John J. Miskel, Lawrence H. Flett, and Dr. Martin Meyer. The fine leadership which Dr. Kelley has demonstrated this year has contributed to the Chapter's splendid record of achievement. With regard to the Employment Agency Project, originated by the New York Chapter, Dr. Kelley states: "There are many, whose opinions command great respect, who feel that the slow course is the wiser course, particularly at this juncture of world events. With the groundwork laid more surely and ready for the time of greater need, The American Institute of Chemists will be able to make real contributions to the chemists' welfare in the field of employment."

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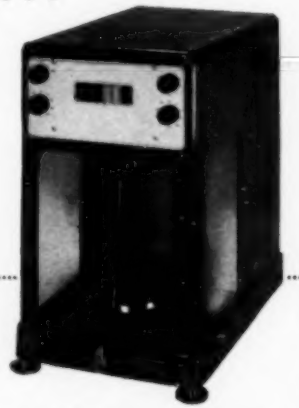

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Twenty-Eighth Annual Meeting

The American Institute of Chemists, Inc.

Hotel General Brock, Niagara Falls, Ontario

Please register at once! Advance registrations are requested!

Wednesday, Thursday, and Friday, May 9, 10, 11, 1951

The 1951 meeting provides an opportunity to visit one of the most important chemical centers in the United States. Come and meet the leaders of chemical industry on the Niagara Frontier. Enjoy the four symposia provided and the panel discussion on "Relationships Between Management and Technical Personnel." Relax in congenial surroundings at the Hotel General Brock overlooking Niagara Falls.

PROGRAM

Wednesday, May 9th

9:30 a.m. **Registration** (Lobby) Members and Non-members **$4.00**

(Advance registration for members, $3.00)

1:00 p.m. **Golf Tournament.** Niagara Falls Country Club. Lewiston Road, Niagara Falls, N.Y. (Greens Fee **$2.00**)

2:00 p.m. **Plant visitations.**

A. Electrochemicals Department, E.I. du Pont de Nemours & Co.
B. Hooker Electrochemical Company
C. International Paper Company

Note: Each of the above trips is limited to 50 persons. Reservations for plant trips MUST be made in advance. Send the following information not later than May 1st directly to:

Dr. Hans O. Kauffmann
Buffalo Electro-Chemical Company, Inc., Station B, Buffalo 7, N.Y.

(1) Name
(2) Citizenship
(3) Your choice of plant visit

7:00 p.m. **Dinner.** Niagara Falls Country Club, Niagara Falls, N.Y. (Tickets **$3.85**)

Thursday, May 10th

8:30 a.m. **Council Breakfast** (Rainbow Dining Room)
(For officers and councilors of the AIC and their alternates only. Tickets **$1.75**)

9:00 a.m. **Registration and Greetings** (Lobby)

10:30 a.m. **Annual Business Meeting** (Blue Room)
Presidential Address. President Lawrence H. Flett
Committee Reports
Election of Councilors
New Business

12:00 a.m. **Informal Luncheon** (Crystal Ballroom) Tickets **$2.75**

1:30—4:30 p.m. **Concurrent Sessions A and B**

Concurrent Session A (Blue Room)

A. Symposium: "Transforming Results of Research into Production." Chairman, Burt Wetherbee, Chairman, Niagara Chapter AIC

1:30 p.m. "Rubber, Plastics and Chemicals — the Human Element." Dr. R. P. Dinsmore, Vice President, The Goodyear Tire and Rubber Company, Akron, Ohio

2:00 p.m. "Emulsion Paints." Donald A. Kohr, Jr., Technical Director, Institutional and Special Products, Sherwin-Williams Company, Chicago, Illinois

2:30 p.m. "Factors in Fermentation Research, Development and Production," Dr. S. B. Lee, Director, Microbiological Research and Development, Commercial Solvents Company, Terre Haute, Indiana

3:00 p.m. "From Photography to Foods." J. E. Magoffin, Manager, Chemical Sales Department, Tennessee Eastman Corporation, Kingsport, Tenn.

3:30 p.m. "Petroleum Chemistry." Dr. W. J. Sparks, Director, Chemical Division, Esso Laboratories, Standard Oil Development Company, Elizabeth, N.J.

4:00 p.m. "The Electric Furnace and High Temperature Chemistry." Dr. Marvin J. Udy, Consultant. Vice President, Electrochemical Society. Niagara Falls, New York

Concurrent Session B (Rainbow Salon, 10th Floor)

B. Symposium: "Professional Education of the Chemist." Chairman, Dr. E. Raymond Riegel, Professor of Industrial Chemistry, University of Buffalo

1:30 p.m. "Education of the Chemist—Cradle to Grave." Dr. Harry N. Holmes, Professor Emeritus, Oberlin College, Oberlin, Ohio

2:00 p.m. "Professional Training in Chemistry at Carnegie," Dr. Webster N. Jones, Dean of Engineering, Carnegie Institute of Technology, Pittsburgh, Pa.

2:30 p.m. "The Training of Graduate Students for Research." Dr. Earl T. McBee, Head, Chemistry Department, Purdue University, Purdue, Indiana

3:00 p.m. "Professional Education of Chemists." Dr. M. H. Trytten, Office of Scientific Personnel, National Research Council, Washington, D.C.

4:00 p.m. "Education for Breadth or Depth?" Dr. Henry M. Woodburn, Head, Chemistry Department, and Dr. E. Raymond Riegel, Professior of Chemistry, University of Buffalo, Buffalo, N.Y.

5:30— 6:30 p.m. **Social Hour** (Blue Room). Cocktails. Tickets **$2.50**

Friday, May 11th

8:00 a.m. **Registration**, continued (Lobby)

9:00—12:00 a.m. **Concurrent Sessions C and D**

Concurrent Session C (Rainbow Salon)

C. Symposium: "Responsibilities of the Chemist in a Changing World." Chairman, Dr. George F. Rugar, Diamond Alkali Company; Chairman Ohio Chapter, AIC

9:00 a.m. "Ethics and Evolution." Jerome Alexander, Consultant, New York, N.Y.

9:30 a.m. "The Responsibility of the Chemist to his Profession." Dr. Harry L. Fisher, Administrative Assistant, Division of Chemistry and Chemical Technology, International Congress of Pure and Applied Chemistry. National Research Council, Washington, D.C.

10:00 a.m. "The Chemist and World Federal Government." Dr. Charles C. Price, Head, Department of Chemistry, University of Notre Dame, Notre Dame, Indiana

10:30 a.m. "The Chemist and His Neighbors." James G. Vail, Vice President, Philadelphia Quartz Company, Philadelphia, Pa.

11:30 a.m. "Responsibilities of the Chemist for Continued Self-Education." Dr. Raymond E. Kirk, Head, Department of Chemistry; Dean, Graduate School, Polytechnic Institute of Brooklyn, New York

Concurrent Session D (Blue Room)

D. Symposium: "Progress in Research," Chairman, L. F. Hoyt, New Products Division, National Aniline Division, Buffalo, N.Y.

9:00 a.m. "Benzene from Petroleum—How and How Much." Dr. Gustav Egloff, Director of Research, Universal Oil Products Company, Chicago, Illinois.

9:25 a.m. "Some Recent Developments in Testing Germicides." Dr. Emil G. Klarmann, Vice President in Charge of Research, Lehn and Fink Corporation, Bloomfield, N.J.

9:50 a.m. "Household Chemistry as a Field for Research." Dr. Pauline Beery Mack, 1950 Garvan Medalist, ACS; Director, Ellen H. Richards Institute, Pennsylvania State College, State College, Pa.

10:15 a.m. "Progress in Waxes." Dr. J. Vernon Steinle, Research and Development Vice President, S. C. Johnson & Son, Inc., Racine, Wisconsin.

10:40 a.m. "Progress in Silicones." W. A. Wiard, Technical Sales Division, Dow-Corning Corporation, Midland, Michigan.

11:05 a.m. "Progress in Research on Cosmetics." Maison G. de Navarre, Consultant, Grosse Pointe Farms 30, Michigan.

11:30 a.m. "Progress in Peroxides." Dr. Hans O. Kauffmann and Dr. Frank P. Greenspan, Buffalo Electro-Chemical Company, Inc., Buffalo, N.Y.

12:15 p.m. **Honor Recipients Luncheon** (Crystal Ballroom) Tickets **$2.75.**

Speaker: Dr. James M. Crowe, Executive Editor, **Chemical and Engineering News.** "News of Scientific and Technical Developments."

All are invited to meet honor recipients.

3:00—4:30 p.m. **General Session** (Blue Room) **Panel Discussion**
"Relationships Between Management and Technical Personnel." Chairman, Dr. Earl T. Whitford, President, Oldbury Electrochemical Company, Niagara Falls, N.Y.
"Professional Advancement of Technical Personnel." Dr. Max Bretschger, Vice President, Buffalo Electro-Chemical Company, Inc.
"Remunerative Incentive Programs for Technical Personnel." R. Lindley Murray, President, Hooker Electrochemical Company. Niagara Falls, N.Y.
"Selection and Training of Personnel for Executive Positions." D. O. Notman, General Manager, Electrochemicals Department, E. I. du Pont de Nemours & Company.

5:45—6:45 p.m. **Reception in Honor of Dr. Harry N. Holmes** (Blue Room) Tickets **$2.50**

7:00 p.m. **Medal Award Banquet** (Crystal Ballroom) Tickets **$6.00.** Toastmaster: President Lawrence H. Flett

SPEAKERS FOR THE MEDALIST

Dr. J. Arthur Campbell, Professor of Chemistry, Oberlin College
Alden Emery, Secretary, American Chemical Society

Presentation of Medal, **Dr. Harry L. Fisher**
Medal Acceptance Address: **Dr. Harry N. Holmes**

LADIES' PROGRAM

Wednesday, May 9th

2:00 p.m. Trip to Shredded Wheat Plant, Niagara Falls, N.Y.

7:00 p.m. Dinner, Niagara Falls Country Club, Niagara Falls, N.Y. Tickets **$3.85**

Thursday, May 10th

Morning Sightseeing at Niagara Falls

12:00 a.m. **Informal Luncheon** (Crystal Ballroom) Tickets **$2.75**

2:00 p.m. Trip to Niagara Glen, Niagara Falls, Ontario
(Note: Involves descent into the glen on foot. Wear comfortable shoes for hiking.)

5:30—6:30 p.m. **Social Hour** (Blue Room) Cocktails. Tickets **$2.50**

Friday, May 11th

Morning and noon	Sightseeing, shopping, at Niagara Falls
5:45—6:45 p.m.	**Reception to Medalist** (Blue Room). Tickets **$2.50**
7:00 p.m.	**Medal Award Banquet** (Crystal Ballroom). Tickets **$6.00**

Non-Members are invited to register and to attend all events on the above program.

Meeting Reservations

It is important to the Committee to have advance registrations, so that adequate accommodations can be provided. This year for the first time, your cooperation in making an advance registration is earnestly requested. Those wishing to make plant trips must make advance reservations no later than May First. Advance registration for members is $3.00. Registration on the day of the meeting is $4.00 for members and non-members. Dr. Walter P. Ericks, The Upson Company, Lockport, N. Y. is Reseravtion Chairman.

Dress for the Medal Banquet is informal.

Hotel Reservations

We have been alloted an ample number of double rooms by the Hotel General Brock. This hotel is operated chiefly for the tourist trade and has only a very limited number of single rooms. Where possible, members are requested to share double rooms. Reservations for Hotel Rooms should be sent directly to the Hotel General Brock, Niagara Falls, Ontario, Canada.

Transportation Information

Eastern Daylight Saving Time will be in effect in New York State and in Niagara Falls, Ontario, at the time of our Annual Meeting. Rail roads and Airlines operating in the Buffalo-Niagara Falls area will operate on Eastern Standard Time, one hour **slower** than the Daylight Saving Time on which our meetings are scheduled.

New York Central Train No. 81, the Genesee, leaving New York, N.Y. at 11:10 p.m., carries Pullman cars to Niagara Falls, N.Y., arriving at 8:31 a.m. The Hotel General Brock can be reached by a short taxi ride across the Rainbow Bridge. There are three trains daily from Buffalo to Niagara Falls, leaving Buffalo at 7:30 a.m., 9:00 a.m., and 5:15 p.m., arriving at Niagara Falls, N.Y., at 8:31 a.m., 10:11 a.m. and 6:23 p.m.

Lackawanna train No. 7, leaves Lackawanna Terminal, Hoboken, N.J. at 7:30 p.m., arriving at Buffalo at 3:45 a.m.

Lehigh Valley train No. 7, the Maple-leaf, leaves Pennsylvania Station, New York, N.Y. at 7:10 p.m., arriving at Niagara Falls, Canada, at 5:35 a.m. New Jersey passengers may take this train at Newark N.J. A connecting section leaves Philadelphia at 7:20 p.m., for the convenience of Washington and Pennsylvania passengers.

Bus Transportation—Buffalo to Niagara Falls: Buses leave every half hour from the Greyhound Bus Terminal, 672 Main St., Buffalo, for Niagara Falls, N. Y., via the Grand Island bridges and terminate at Niagara Falls, N.Y. in sight of the U.S. end of the Rainbow Bridge

to the Hotel General Brock. Buses of the Canadian Bus lines leave the Greyhound Bus Terminal at 9 and 11 a.m., and 1, 3, 5, 7, 9:15 p.m. for Niagara Falls, Ontario. These buses cross the Niagara River at the Peace Bridge and stop at the Hotel General Brock. Both bus lines will operate on Daylight Saving Time, at the time of our meeting.

Auto Travel: All main routes leading to Buffalo are well-marked with directions for reaching Niagara Falls. Motorists will find it easiest to enter Canada via the Rainbow Bridge at Niagara Falls, since the Hotel General Brock is at the Canadian end of this famous bridge. Motorists coming from East, West, or South can avoid the city of Buffalo entirely. If motoring on U.S. Route 20, either from the East or West, take Route 78, north, at Depew, to Route 324 (Sheridan Drive). Turn left (west) on Route 324. You then have a choice of (1) taking Route 62 (Niagara Falls Blvd.) north, from Route 324 into Niagara Falls, N.Y. or (2) continuing on Route 324 across the Grand Island bridges to Niagara Falls, N.Y. (Note: Grand Island is part of New York State. There is a toll of 25 cents per car.) For those traveling from the West on U.S. Route 20, there is an optional route: Turn left on Route 75 through Athol Springs to Route 5. Follow Route 5 into Buffalo, cross into Canada at the Peace Bridge and continue on the scenic Canadian side of the Niagara River to Niagara Falls, Ontario. If you are motoring from the East, there are also three parallel routes north of U.S. Route 20, viz. Route 5 (from which you can bear right onto Route 324 a few miles west of Clarence) and Routes 31 and 104 which run into Niagara Falls, N.Y. Routes from the South intersect or cross U.S. Route 20 at various points. Turn into Route 20 and proceed as directed above.

Crossing into Canada by Auto: There are four bridges across the Niagara River, the Peace Bridge at Buffalo, where the Niagara River begins at the eastern end of Lake Erie; the Rainbow Bridge with its Falls view at Niagara Falls; the little-used Whirlpool Rapids Bridge at the northern section of Niagara Falls, N.Y., and the Queenston Bridge on the lower Niagara River. If you plan to cross into the United States over the same Bridge by which you entered Canada, you merely surrender your car license at the bridge and pick it up when you cross back again. If you plan to leave Canada by a different route, you must fill out a permit at the bridge before you enter Canada, specifying the route by which you plan to leave. You are required to stop for customs and immigration inspection each time you enter Canada or the United States.

Airline Service to Niagara Falls, N.Y.: American Airlines operates a flight out of Chicago at 8:00 a.m. stopping at Detroit, and arriving at the Niagara Falls, N.Y., Airport at 11:31 a.m. Another American Airlines flight leaving New York at 9:25 a.m. reaches Niagara Falls, N.Y. Airport at 12:03 p.m.

Niagara Glen Trip

The guide for the Ladies Trip to Niagara Glen on Thursday afternoon, May 10th, will be Dr. W. B. Hinegardner, research chemist at the Electrochemical Department of E. I. du Pont de Nemours & Co. Dr. Hinegardner has had many years experience in conducting nature classes in botany, geology, and ornithology along the Niagara Gorge.

—L. F. Hoyt, F.A.I.C.

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Dr. Maurice H. Fleysher
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Concannon Elected

Charles C. Concannon, F.A.I.C., of the Office of International Trade, Department of Commerce, Washington, D.C., was recently elected president of the Harvard Club of Washington, D.C. He has the distinction of being the first chemist to hold this office.

Evans Appoints

Evans Research & Development Corporation, New York, N.Y., has appointed the following research assistants: William F. Kilgannon, Eugene Garfield, and Joseph Licht.

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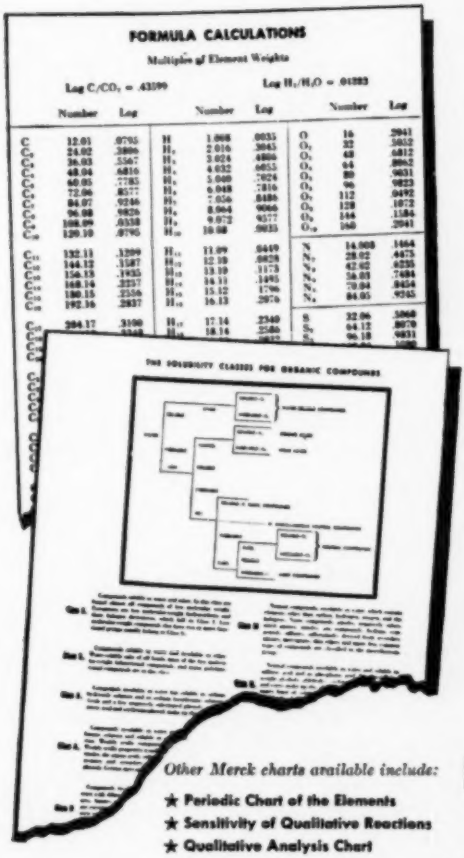

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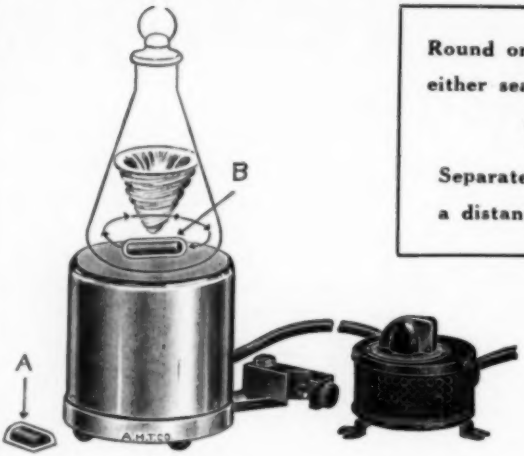

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EDITORIAL

It's Your Problem

Dr. Gustav Egloff, Hon. AIC

Former President of The American Institute of Chemists

PROFESSIONAL societies such as THE AMERICAN INSTITUTE OF CHEMISTS can do much to bring about due recognition of the chemist as a professional man, but they cannot *earn* professional standing for him. The organized activities for raising status must be based on a foundation laid by the individual chemist. Furthermore, organized activities must be supplemented by an effort on the part of the individual to enhance his own reputation.

The responsibility of the chemist, however, does not end with becoming known just for his chemical achievements, worthy though they may be. While professional status is measured primarily by these accomplishments, the attainment of high standing is realized only by those who have additional attributes which cause them to be known favorably *as men*.

In seeking true professional standing, the chemist must forget about that fictional character, the "average" chemist. A professional group is not made up of "average" or "common" men but of uncommon men. Some may argue that one of the great obstacles in obtaining professional standing is the chemist's universal reputation for being too individualistic, too much of a "queer" or "ivory-tower" type. Being individualistic, however, does not imply that one must indulge his socially unacceptable eccentricities. The pursuit of scientific truth does not excuse one from his role as a good citizen nor from the exercise of good manners and balanced judgment.

The chemist will be helped by studying the personal behavior of other professional men such as physicians and surgeons whose standing he often envies. Likewise, there are many chemists who have high standing as professional men in the eyes of society regardless of any concept of chemists as a group, and therefore, stand out as good examples for study.

Many of the attributes which characterize these men as professional are intangibles which cannot be learned from books. They result from observation made with broad perspective. They are acquired as the individual puts forth effort to increase his own stature.

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1951 Gold Medal Award

Dr. Harry N. Holmes, F.A.I.C., emeritus professor of chemistry, Oberlin College, Oberlin, Ohio, will receive the 1951 Gold Medal of THE AMERICAN INSTITUTE OF CHEMISTS, in recognition of his "noteworthy and outstanding service to the profession of chemist and the science of chemistry as an able and enthusiastic teacher, author, and investigator."

Presentation of the Medal will be made at the 28th Annual Meeting of the Institute, Niagara Falls, Ontario, May 11th. (See Annual Meeting Program, page 127).

Perkin Medal Presentation

Dr. Marston Taylor Bogert, Hon. AIC, past president of the Society of Chemical Industry, and dean of American chemists, will present the 45th impression of the Society's Perkin Medal to Henry Howard, F.A.I.C., in recognition of his important and distinguished services to American chemical industry extending over a period of more than forty years. The presentation will be made at a joint meeting of the American Section of the Society of Chemical Industry with the American Chemical Society, the American Institute of Chemical Engineers, and the Electrochemical Society, to be held in the Waldorf-Astoria, New York, N.Y., April 27th.

Francis J. Curtis, F.A.I.C., vice president, Monsanto Chemical Company, will introduce the medalist with a talk on "The Medalist and His Accomplishments." Dr. Bogert will present the medal and Mr. Howard will respond with the medal address describing some of the interesting events of his long career in this industry during the period of its most important growth. Dr. Gustavus J. Esselen, Hon. AIC, chairman of the American Section and vice president of U.S. Testing Company, will preside.

The Education of the Chemist for Tomorrow's World

Dr. M. L. Crossley, Hon. AIC

Former President, The American Institute of Chemists

AS A result of confused aims and incomplete bases for thinking, the trend in education has moved so far in the direction of specialization without adequate foundation that we grind out Doctors of Philosophy who are for the most part illiterate. The disciplines making for breadth of knowledge have been slighted or abandoned; discipline of mind or action being out of harmony with the production of specialists. The trouble arises from a misconception of the functions of the disciplines in education and the mode of their application.

Highly specialized education produces for the most part skilled manipulators with narrow concepts of the importance and significance of their aims and accomplishments. It tends to produce plumbers who know how to fit pipes together but have little interest in the effectiveness and efficiency of the operation of the plumbing system; physicians who are only human plumbers; chemists who know formulae and methods but have an inadequate appreciation of their significance; teachers with compilations of facts but without a spark of inspiration and leaders with grandoise aims but without vision. Education intended for particular types of service—education of the man for the job—fails to appreciate that the basic principles of life are the same for all and that in any work, whatever its nature, one must be able to see its relation to the economic and social whole. Life's conditions and experiences are not packaged and labeled for particular consumer needs. Training for particular service should be built on a broad foundation.

Education is a process of human adjustment to the shifting circumstances in the panorama of events that constitute the history of the human race. Schools and systems are but the tools that help to make the process productive of good results. They are not the only agencies of education. There are three essential agencies whose combined activities and influences are needed for the proper education of the whole man: the home, the church and the school. The efforts of these when coordinated shape the course of the individual and

enable him to grow through the stimulating impact of experience; his own and others. They prepare the individual to benefit by his social contacts.

Education must help the chemist to develop fully his latent capacities for service and to direct them to honorable and useful ends, making the best possible impression on life. Independent of the type of service, the individual at his level of understanding, capacities and interest must be prepared to assume his obligations and to discharge his duties with maximum competence.

Education of the chemist for the world of tomorrow must fulfill two functions, broadly speaking:

It must widen his scope of vision, developing the "whole man" in him. To accomplish this it must first help him to develop his latent capacities and personal attributes as fully as possible. It must make him aware of the important factors in personality and help him to shape them to his needs. Personality is the embodiment of those personal qualifications which impress the individual on others in his intimate relations with them. It is the outward manifestation of one's inward self. What one does in life is governed, in no small degree, by his attitude and temperament, two important attributes of personality. The former is the individual's immediate and spontaneous reaction to a situation and indicates his capacity for cooperation. The latter is the outward manifestation of the individual's peculiarity of physical and mental organization by which his manner of thinking, feeling and acting is affected; it is his natural disposition, reflecting the degree to which his physical and emotional reactions are controllable and determining his capacity to adapt himself to rules and restrictions.

> "Houses are built by rule and commonwealths.
> Entice the trusty Sun, if that you can,
> From his ecliptic line; beckon the sky.
> Who lives by rule then, keeps good company."

The education that ministers to the development of the whole man must sharpen the individual's sensitivity to the conditions and problems of life. It must encourage him to cultivate and strengthen his powers of observation and preception in order that he be constantly aware of what is going on about him and have a desire to know the consequences and their significance. To see the present in its true light, one must have a knowledge of the past for comparison. Both the successes and failures of the present and the past are essential to the accomplishments of the future. Many wish to get their thumbprints on the records of success, few are willing to accept or share responsibility for failures.

Moral Responsibility

The importance of the contributions the chemist makes to society depends upon his sense of individual moral responsibility. Basic education must help him to cultivate this and employ it in his work and in the discharge of his duties of citizenship. Selfish interests and the lack of a high sense of moral responsibility cause the individual to pervert his knowledge and skill for temporary gain, regardless of the consequences for society as a whole. Education must not only fit people to be cogs in the machinery of our economic system but it must primarily prepare them to be good citizens, living useful and honorable lives. Preparation for good citizenship should be one of the most important functions of basic education.

Education for good citizenship must develop the individual's capacity to understand and evaluate human relations. It must permit of that catholicity which enriches the mind with liberal thoughts and compels fairness in dealing with one's fellowmen. This is important in determining the scope and significance of one's influence in his dealings with his associates and friends. It must make possible the promotion of the spiritual spark which keeps aglow the fires of ambition and infuses that animating, quickening, exalting quality to high endeavor and inspiring leadership.

The education that prepares the chemist for good citizenship in this country must instill in him the essentials of our political and social history, which are the basis of our democracy. The essence of democracy does not distil off of political brews. It has evolved out of the steadfast purpose of our forefathers to secure freedom of opportunity for one to achieve success in accordance with his capacity for service and without limitation imposed on his dignity as an individual. Education for good citizenship should produce citizens who believe in the principle that the individual to be free must have the opportunity to provide security for himself. Government provided security robs the individual of initiative, dignity and freedom and produces a devitalized, mentally anemic society.

Character

Basic education must help the chemist to confirm his ideals and intensify his faith, building a high character which the vicissitudes of life cannot undermine or destroy. The individual's success in life depends upon his ability to integrate ideals and practice in his work. Ideals are not to be confused with idle dreaming. They are the essential elements of character and must be implanted by the home, nurtured by the church, cultivated and confirmed by the school. They are invasive when the spiritual soil is prepared to receive them. Without ideals character is

anemic; without faith it is purposeless. Character is the composite qualities of the individual which confer distinction and serve as an index of his essential nature. "Character is what a person is; reputation what he is supposed to be." A strong character has moral soundness; it is fearless in accepting truth; it adheres scrupulously to the principles of justice, fairness and sincerity; it is faithful to obligations which it discharges with ease and distinction; it has the quality of spirit which permits of encountering difficulties and dangers with firmness and confidence, despising fear and failure. It disdains injustice, meanness and revenge preferring to act in accordance with greatness of mind and loftiness of spirit.

To round out the chemist as an individual and provide the strongest foundation on which to build his specialized training, general education must enable him to appreciate the importance of social and economic principles. It must permit him to register his true worth in life. It must help him to build a personal philosophy strong enough to withstand the discouragement of failure and the guile of temporary success. "Guile stealeth the wits of the wisest". Finally, it must have inspired him to want to keep on learning; have conditioned him for the enjoyment of intellectual pursuits and prepared him to participate fully in the art of living.

Living fully does not consist in seeing how much one can get out of life, but, in how much of oneself is put into what one does. There is no greater truth, than, that man does not live by bread alone. Its significance is ageless and universal in application. Material possessions in themselves have no power to satisfy one's aspirations and to keep ever before him a vision of greatness. One must be guided by a philosophy built on broad and sound principles. The enjoy-yourself, it's-later-than-you-think philosophy is barren of real substance and cramps the spirit of man.

Basic Education

The basic education should be the same for all, covering thoroughly the major fields of experience of the race. This experience is expressed in literature, history, mathematics, religion, music, art and science. The essence of these still represents the basis of education. A thorough understanding of the essentials of these subjects and a good knowledge of English should be provided in secondary education. Every effort should be made to secure student interest and to implant in the minds of students the role of general education in preparing the individual for his life's work. It is important that information be presented in an inspiring manner. A dull recital of the details of a subject hardly ever stimulates intellectual

curiosity. The subject matter can be factual and still be dramatic. It must be compressed in a sugar coated pill to be palatable to the average mind and the ingredients of the pill must be mentally digestable if they are to nourish the intellect. Just exposing the individual to much and varied fragments of education will not assure his possession of the information and his acquisition of knowledge. The inspirational elements in education are much more important than the informational.

Information is of little value in training people to think unless it is properly organized and evaluated. This involves a critical examination of the facts and an unprejudiced assessment of their significance under the prevailing conditions at the time. This is mental discipline; it is absolutely essential to thought processes. It is an important function of education to help the individual to develop for himself the processes of acquiring information and assembling it into usable knowledge. He must be taught to study. Facts off the mass-teaching assembly line seldom reach the mental environment of the average individual and when they do, they arrive in miscellaneous bundles which add to the existing mental confusion. Many are dipped into the educational vat and come out retaining but a trace of the brew.

It should be possible to get better results. But, we must first want them and then organize to get them. With greater efficiency the time cycle of secondary education could be cut considerably and the product greatly improved so that the processing by higher education would be more effective. If students learned how to study in Grade School, they would be less likely to fail to complete college work. The student fails in college mathematics, as a rule, because he never understood arithmetic. He flunks English because his knowledge of syntax is deficient. The wasted time, effort and money in our system, as it operates, is not only great but tragic.

If we would recognize that the education of the whole man requires a basic common foundation and stop mixing special educational nostrums for the treatment of particular cases, our system of education would accomplish better results and our entire citizenry be greatly improved. This does not mean that we should not provide for specialized education; it means that we should insist that there be first established a sound foundation by basic education before specialization begins. This should be true at all levels in the educational process. The laborer, the mechanic, the artisan, the professional man should each be able to appreciate his privilege and obligation as a citizen if he is to serve in his field with the greatest usefulness and reputation.

Training for Expertness

The second function to be fulfilled by the education of the chemist for the world of tomorrow is that of laying the foundation for the proficiency of knowledge which is essential to expertness. This must be superimposed upon a broad cultural training. For the profession of chemistry this cannot be had in college, at present, without sacrificing a part of the work in the liberal arts and humanities. I believe that both the individual and society will be better served if professional education is preceded by a proper study of the cultural courses in college. The outlines for the proficiency of knowledge needed in a profession should be charted mainly in graduate school; the time required for graduate work will vary with the profession. Of course, if we could get greater efficiency in secondary education, it should be possible to have the last two years of college for work at the graduate level. At present, the demands for people with special training in this and that, causes the colleges to turn out people with special educational labels which in many cases are misleading. Certain people not only expect that a B.S. in chemistry assures them an expert chemist, but in addition, a specialist in a particular field of chemistry; an analytical chemist, a synthetic chemist, a chemical engineer. Facts of chemistry alone do not guarantee an individual's capacity to render satisfactory service as any breed of chemist. One must be able to interpret the facts and understand the significance of what they reveal, if he is to be worthy of the title of chemist. The same is true for other professions.

The "hot house" method of educating the man for the job, produces artisans and technicians, but not professionals. The problems to be solved, particularly in the experimental sciences, demands broadly trained people with vision. In the future, one must give consideration not only to the knowledge and means which may lead to the solution of a problem but as well, perhaps more, to the use of the results and their impact with the forces of society. What good is accomplished in harnessing atomic energy if we use it to destroy our civilization? Why unravel the complex skein of cellular events involved in cancer and save human lives, if we are to deprive citizens of individual freedom and reduce them to the economic status of Government wards. These questions cannot be answered with scientific data; they involve morals. The chemist, however, cannot escape responsibility as a citizen in the consideration of such questions because of his being trained as a scientist and having had no experience with such. As a citizen he must be qualified to discharge his obligations with a high degree of competence.

Professional Progress

The chemist as a professional man must be both proficient and expert. He is neither at the end of the formal period of education. It is too much to expect that he should be. All that should be expected is that he has the foundation on which to build proficiency and possesses the desire and capacity to keep building by learning. . . Without broad proficiency of knowledge, expertness may be enslaving and is usually disappointing. It is the most important factor contributing to human obsolescence; the round peg in the square hole and the peg for which there is no hole that will fit.

Expertness is acquired through experience. One gains experience by doing—first, as past experience dictates and then as the composite of knowledge and acquired experience indicates. The experiences of others in the past when understood and related to the problems and conditions of the present constitute the knowledge which governs the effectiveness of the immediate experience in leading to accomplishment. It takes time to develop expertness; in scientific research or in opening oysters.

Expertness, in some degree, is essential to success in every undertaking. No matter what one does, he should be trained to combine maximum knowledge and experience in doing it well. Education must meet the specific as well as the general requirements for work.

Education is a slow process. There are no shortcuts that promise successful results. Those who demand that colleges and universities turn out scientists ready to immediately solve all the problems of the age; chemical engineers trained to design and operate chemical plants; economists who possess the magic formula for creating prosperity by deficit spending and the political leaders who know the way to that land of Utopia, where the streets are paved with gold and everyone is provided with the nectar of the Gods without the necessity of earning it, are ignorant of the experience of the human race in its struggle to reach the shoulder of the mountain of progress where we stand today. The future promises no magic carpet leading to Utopia; it assures success only as a result of organized effort.

Company Omitted from Map in March Chemist

To the Editor:

We have just received the March 1951 copy of The Chemist and note that you have a very good map of the chemical industries in the Niagara area in this publication, but fail to see our name listed!

—Isco Chemical Division of
Innis, Speiden & Company
Niagara Falls, N.Y.

Keyes Joins NAM

Dr. Donald Babcock Keyes, F.A.I.C., special consultant to the Heyden Chemical Corporation, New York, N.Y., has joined the staff of the National Association of Manufacturers in an advisory capacity to the Association's Committee on Research.

Dr. Keyes served as a vice president of Heyden Chemical for the five years ending last December 31st, when he was made special consultant. From 1941 to 1945 he was in Washington, D.C., for special service with various war agencies. From June 1, 1944, to November 1, 1945, he was director of the Office of Production Research and Development of the War Production Board. He received the first Honor Scroll Award of the New York Chapter, AIC.

Forensic Science

Speakers on the program of the Third Annual Meeting of the American Academy of Forensic Sciences, held at the Drake Hotel, Chicago, March first to third, included R. J. Abernethy, F.A.I.C., on "Determination of Blood Alcohol"; Sidney Kaye, F.A.I.C., on "Lethal Levels of Acute Alcoholism", and Dr. Kurt M. Dubowski, F.A.I.C., on "Some Frequent Medico-legal and Forensic Problems and Their Technical Investigation in Smaller Communities."

Shaw Appointed Superintendent

William I. Shaw, F.A.I.C., has been appointed to head Central Paint & Varnish Works, Inc., Brooklyn, N.Y., as general superintendent of plants, according to an announcement by President L. Francis Case of Central. Mr. Shaw will be in charge of plants, production, and research, and also will be responsible for all plant administrative work as assistant to Mr. Case. Mr. Shaw has served in the armed forces as an officer in the Chemical Warfare Service. Before joining Cepco, he was general manager of the Ace Chemical Paint and Varnish Company of Newark, N.J. He is a graduate of Columbia University.

New Cyanamid President

Raymond C. Gaugler was elected president of the American Cyanamid Company, New York, N.Y., on January fifth, to succeed the late William B. Bell.

Snell Appointed

Dr. Foster Dee Snell, F.A.I.C., has been appointed to the advisory commission in chemical technology of the State University of New York Institute of Applied Arts and Sciences.

Johnston to Stanford Research

Norman F. Johnston, M.A.I.C., formerly with R. T. Vanderbilt Co., Inc., East Norwalk, Conn., is now with Stanford Research Institute, Stanford, California.

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Florence E. Wall, *At-Large*
James R. Withrow, *At-Large*

March Meeting

The 274th meeting of the National Council was held March 14, 1951, at The Chemists' Club, New York, N.Y., at 6:00 p.m. President Lawrence H. Flett presided.

The following officers and councilors were present: Messrs.: M. L. Crossley, L. H. Flett, K. M. Herstein, F. A. Hessel, M. J. Hiler, L. B. Hitchcock, C. P. Neidig, J. H. Staub, L. Van Doren, F. E. Wall, J. R. Withrow, and L. T. Work. H. B. Hass, M. J. Kelley, and V. F. Kimball were present.

The minutes of the previous meeting were accepted.

President Flett discussed the tentative program of the 1951 Annual Meeting and urged pre-meeting registration.

The Secretary reported that the Jury on Medal Award has selected Dr. Harry N. Holmes, professor emeritus of Oberlin College, to receive the 1951 Gold Medal of the INSTITUTE.

President Flett announced that the medal will be presented to Dr. Holmes at the Annual Meeting by Dr. Harry L. Fisher, chairman of the Jury on Medal Award.

President Flett stated that he had attended the meeting of the New York Chapter at which Honorary membership was presented to Mr. Jerome Alexander. He was unable, because of the railroad strike, to attend the meeting at which Honorary membership was presented to Dr. Alexander Silverman in Pittsburgh, so that Dr. Walter J. Murphy was delegated to present the Honorary membership on that occasion.

Dr. Kelley exhibited the new form of Honorary membership certificate which had been selected by him under authorization of the Council.

Arrangements have been made, President Flett stated, to hold AIC breakfasts during the Boston and Cleveland meetings of the American Chemical Society.

The report of the Treasurer was accepted.

Dr. Harry N. Holmes was elected to Honorary Membership in THE AMERICAN INSTITUTE OF CHEMISTS.

The Secretary reported that the INSTITUTE now has a total of 2458 members. He announced with deep regret the deaths of the following members:

William H. Gabeler, F.A.I.C.
April 29, 1950

William D. Harkins, F.A.I.C.
March 7, 1951

Seymour M. Hermann, F.A.I.C.
Nov. 23, 1949

Margaret Masten, F.A.I.C.
(date not yet determined)

James E. Mills, F.A.I.C.
Aug. 12, 1950

Vittorio Molinari, F.A.I.C.
Jan. 23, 1951

Harry T. Newman, F.A.I.C.
Mar. 4, 1950

Karl D. Schaaf, F.A.I.C.
Oct. 30, 1950

Emil Karl Ventre, F.A.I.C.
Oct. 14, 1950

The following resolution was adopted:

WHEREAS, in the death of A. Cressy Morrison on January 9, 1951, The American Institute of Chemists has sustained the loss of an Honorary Member, and

WHEREAS, A. Cressy Morrison worked actively in the promotion of the objectives of The American Institute of Chemists and aided it materially in an advisory capacity, and

WHEREAS, he materially aided unemployed chemists through his support of the Chemist Advisory Council, and

WHEREAS, during his lifetime, he was active in bringing the importance of chemists to the attention of the public through his writings and teaching, and

WHEREAS, his willingness to cooperate and his pleasant personality endeared him to a host of members and friends,

BE IT THEREFORE RESOLVED, that the Council of The American Institute of Chemists hereby records its deep sorrow and sense of loss sustained in the death of this distinguished leader in chemical and technical organizations, and

BE IT FURTHER RESOLVED, that these resolutions be printed in THE CHEMIST, and that a copy of them be sent, together with our sincere expression of sympathy, to the family of our late member.

Upon motion made, seconded, and carried, the following resolution was adopted:

WHEREAS, in the recent death of Dr. Harvey A. Seil, The American Institute of Chemists has sustained the loss of one of its senior members, and

WHEREAS, in his work Dr. Seil exemplified always, the highest ideals of the profession and of The American Institute of Chemists, and

WHEREAS, by his cordial friendliness and ever-willingness to help, he inspired many young chemists who had occasion to deal with him, and

WHEREAS, his well-directed efforts have effectively worked for higher standards in the Food and Drug Industries, and

WHEREAS, his kindliness, vigor and cordiality, have made him many friends in the profession and in the Institute,

BE IT THEREFORE RESOLVED, that the Council of The American Institute of Chemists hereby records its deep sorrow and sense of loss sustained in the death of this distinguished technologist, leader in chemical and technical organizations, and loyal friend, and

BE IT FURTHER RESOLVED, that this resolution be spread upon the minutes of this meeting and that a copy thereof be sent, together with our most sincere sympathy, to the widow and family of our late member.

A letter from the New York State Society for Medical Research, Inc., requesting support of Senate Bill No. S 2695 and Assembly Bill No. A3034, in the New York State Legislature, to make impounded animals available for medical study, was presented. The following motion was adopted:

That the Council advise the New York Society for Medical Research that it gives its moral support to these bills and that it regard them as a valuable piece of legislation.

Mr. Hiler reported that the Dayton Section of the Ohio Chapter will meet March 18th. The Chapter will hold its Annual Meeting on April 26th, at which one or two good speakers will address the group. A plant trip will also be featured. He stated that a recent questionnaire showed that 96 per cent of 250 persons reported that something should be done on the professional status of the chemist.

President Flett stated that one of the INSTITUTE's problems is how to make the chemist understand his job better so that he is qualified to fill the important positions available in his field. The importance of establishing professional contacts and increasing his knowledge cannot be overstressed. Top positions in the chemical industry often go begging for qualified people to fill them.

Mr. Staub reported that the Pennsylvania Chapter's meetings bring out about ten per cent of the local membership and that a meeting is planned in the near future.

Mr. Herstein announced that the New York Chapter will present its

1951 Honor Scroll to Dr. Raymond E. Kirk. The next meeting of the New York Chapter will be held on March 29th. He reported that the Chapter Council had decided to charge $2.00 a year for local dues, the funds to be used for expansion of the Chapter's activities.

The editor of THE CHEMIST was requested to prepare a calendar of Chapter meetings for THE CHEMIST.

The following new members were elected:

FELLOWS

Bailey, William Edward
Analyst, Commerce Department, Chemical Division, N.P.A., Washington 25, D.C.

Beeghly, Hugh F.
Head, Applied Science Section, Division of Metallurgy Research, Jones & Laughlin Steel Corp., 40 Longworth Street, Pittsburgh 7, Pennsylvania

Bellino, Vito Victor
Research Chemist, Barrett Division Allied Chemical & Dye Corp., Margaret and Bermuda Streets, Philadelphia 24, Pa.

Boyle, Clete Louille
President, Owner, Director of Research, Industrial Chemical Products Co., 3777 Bellevue Avenue, Detroit 7, Michigan

Bryan, Loren Aldro
Research Associate, Miner Labs., 9 South Clinton Street, Chicago 6, Illinois

Carmichael, Emmett Scott
Technical Service, Supervisor, Lubricants Division, Socony-Vacuum Oil Co., Inc., 412 Greenpoint Avenue, Brooklyn 22, New York

Congleton, John Smith
Supervising Chemist, Synthetic Department, Maas & Waldstein Co., 438 Riverside Avenue, Newark 4, New Jersey

Deutz, Thomas N.
Analytical Research Chemist, Edwal Labs., Inc., Ringwood, Illinois

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Dubowski, Kurt Max
Assistant Director of Labs., The *Norwalk Hospital, Norwalk,* Conn.

RAISED FROM ASSOCIATE TO MEMBER

Duane, William C.
Chief Chemist, Carney Co., Inc., Mankato, Minn.

REINSTATED TO FELLOW

Martin, George Dewey
Physical Science Adm., Office of Land Commissioner, for Bavaria, Military Security Division, A.P.O. 407-A, Munich, c/o Postmaster, New York.

Stevens Joins Colgate

Elbridge S. Stevens, M.A.I.C., has joined the R. & D. Division of Colgate-Palmolive-Peet Company, Jersey City, N.J., as analytical chemist. He was formerly in the production department of the New York Metropolitan plant of Canada Dry Ginger Ale, Inc.

AIC Activities

C. P. Neidig, F.A.I.C.

Chicago

Chairman, Bruce M. Bare
Vice Chairman, Dr. B. S. Friedman
Chairman-elect, Dr. W. B. Hendrey
Secretary-treasurer, Dr. Glen Hedrick
Representative to National Council, Dr. Gustav Egloff

The Chicago Chapter held an open meeting on March second. The general theme for this meeting was "Practical Techniques of Rewarding the Chemist for his Role in Creating New Wealth," and this was aptly handled by the following panel of speakers: Dr. Otto Eisenschiml, Scientific Oil Compounding Company; Dr. Albert L. Elder, Corn Products Refining Company, and Clifford A. Hampel, Armour Research Foundation. A general discussion from the floor followed the speakers' presentation. Forty-eight people attended the meeting.

Pennsylvania

Chairman, C. P. Neidig
Vice Chairman, Ronald J. Baird
Secretary-treasurer, John H. Staub
Representative to National Council, Hillary Robinette

N.Y. Chapter Honor Scroll

Dr. Raymond E. Kirk, F.A.I.C., head, Department of Chemistry, and dean of the Graduate School, Polytechnic Institute of Brooklyn, N.Y., will receive the 1951 Honor Scroll of the New York Chapter, AIC, at its annual meeting to be held May 24th.

The next meeting of the Pennsylvania Chapter will be held Thursday, May third. The speaker will be Dr. N. B. Sommer of Jefferson Chemical Company on the subject of "Chemistry of Ethylene Oxide". At the same time, it is planned to award student medals to outstanding seniors in the Philadelphia area colleges.

Los Angeles

Chairman, Dr. Romeo P. Allard
Vice Chairman, Chester H. Stephens
Secretary, Dr. Edwin A. Goldsmith
Treasurer, Wilfred McNeil Nobel
Representative to National Council, Dr. L. F. Pierce

On February 21st, the Los Angeles Chapter held its most successful meeting of the season. The guest speaker was Dr. A. J. Haagen-Smit, professor of bio-organic chemistry at the California Institute of Technology, chief consultant to the Los Angeles County Air Pollution Control District, and world-famed authority in

Ohio Chapter Award

Dr. Clyde E. Williams, director, Battelle Memorial Institute, Columbus, Ohio, will receive the first Honor Award of the Ohio Chapter, AIC, at its annual meeting to be held April 26, 1951.

the fields of essential oils, plant hormones and flavors. It has been mainly through Dr. Haagen - Smit's efforts that the major constituents of Los Angeles "smog" have been identified, and the theory of smog origin developed by him has gained widespread recognition.

The Los Angeles Chapter is planning to award student medals to the top ranking seniors in chemistry at the various colleges and universities in the Los Angeles area.

New England

Chairman, John J. Healy, Jr.
Secretary-Treasurer, James W. Perry
Representative to National Council, Raymond Stevens

The officers of the New England Chapter are taking real steps toward initiating some activity in this area. Their initial plans call for informal dinners at a number of towns for a discussion of future programs with the local Institute members.

New York

Chairman, Dr. M. J. Kelley
Vice Chairman, Dr. A. F. Guiteras
Secretary-treasurer, G. A. Kirton
Representative to National Council, Karl M. Herstein

The New York Chapter met March 29th at the Hotel Commodore, New York, N.Y., for a discussion meeting on "Selective Service and Scientific Personnel." The speakers were Col. Candler Cobb, director of Selective Service, New York, N.Y., Col. C. E. Davies, program director of the Engineering Manpower Commission, and Dr. L. H. Farinholt, associate professor of chemistry, Columbia University.

Chapter Meetings

April 27th Chicago Chapter. Western Society of Engineers' Building, 84 E. Randolph Street, Chicago. Speaker, Dr. C. C. Price, Notre Dame University, "Scientists in Politics."

May 3rd Pennsylvania Chapter. Engineers' Club, Spruce Street, Philadelphia. Speaker: N. B. Sommer, Jefferson Chemical Company, "The Chemistry of Ethylene Oxide."

May 24th New York Chapter, Annual Meeting. Hotel Commodore, New York. Award of Honor Scroll to Dr. Raymond E. Kirk, Polytechnic Institute of Brooklyn.

April 26th Ohio Chapter. Award of Honor Scroll to Dr. Clyde Williams, Battelle Memorial Institute. Annual Meeting.

Opportunities

Doris Eager, M.A.I.C.

Positions Available

Assistant Plant Manager, metallic soaps, plant in metropolitan area, N. Y. Salary open. Box 41, THE CHEMIST.

Technical Salesman, organic chemical manufacturer, must be graduate chemist, salary plus incentive. Metropolitan area, N.Y. Box 43, THE CHEMIST.

Organic Chemist, cellophane, packaging experience, New England area, salary open. Box 45, THE CHEMIST.

Organic Chemist, B.S. with 3 years experience, or M.S. with 1 year experience, synthesis, heterocyclic series. Reply Dr. P. Y. Weill, Naval Torpedo Station, Newport, R.I.

Mechanical and electrical engineers required as additions to engineering staff for development of intricate precision, automatic machines. Also chemical engineers. Reply Special Projects Dept., American Machine & Foundry Co., 625 Eighth Ave., New York.

Chemist Available

Analytical Chemist interested in metropolitan N.Y. position. Capable, dependable. Older man with wide experience including analysis of tanning materials, pharmaceuticals, etc. Former director acid manufacturing. Box 40, THE CHEMIST.

Fellowships

Pan American Refining Corporation will continue the company policy of granting study fellowships through the academic year 1951-52. These fellowships include those in Chemical Engineering at the University of Illinois, Massachusetts Institute of Technology, and Rice Institute; and in chemistry at the University of Texas and the University of Oklahoma.

Teachers' Training Program

St. Louis University, Department of Chemistry, announces an intensive six-weeks training program for teachers of chemistry at the secondary school and junior college level.

Details may be obtained from Theodore A. Ashford, newly appointed director of the Summer Institute, Department of Chemistry, St. Louis University, St. Louis, Missouri.

AEC Awards

The U.S. Atomic Energy Commission has awarded 13 new unclassified research contracts in biology, medicine and physical research, as well as renewing seven existing contracts. The total of awards is now 371, not including 73 others supported jointly with the Office of Naval Research.

Program Expanded

American Potash & Chemical Corporation will expand their research and development program. Daniel S. Dinsmore will direct a new research group at the Los Angeles Headquarters as well as the laboratory staff at Trona, California.

Philippine Pharmaceutical Lab

F. J. Stokes Machines Co., Philadelphia, Pa., is supplying equipment to modernize the pharmaceutical laboratory of the Manila Central University, Philippine Islands, making at this university the only fully equipped pharmaceutical laboratory in the Philippines.

Demand for Engineers

Case Institute of Technology announces a heavy demand for engineers as evidenced by the number of offers, ranging from two to 16 positions, made to seniors, and the increased number of companies interviewing. Also noted was the fact that companies from a wider area have been represented, with a decided increase in firms from the West Coast and Southwest.

Employers Please Note!

The Institute of Social Research of the University of Michigan, in a survey made at the Prudential Insurance Company, reveals that the chronic complainer is a better worker than the man who whistles on his job, and that good foremen criticize management but are lenient with subordinates. At Prudential, one comment was, "On the basis of this study it may be that instead of firing the guy who threatens to punch his boss on the nose, we should promote him".

Army Contract

The Armour Laboratories are erecting a $850,000 plant at Fort Worth, Texas, expected eventually to process 15,000 pints of blood a month, to supply the Army, under contract, with dried human blood. The American Red Cross will collect the blood from volunteers in that section.

Vegetable Oil Purchases Hardesty

Vegetable Oil Products Co., Inc., Wilmington, has purchased the plant of W. C. Hardesty Co., Inc., at Los Angeles. The plant will operate as the Vopcolene Division of Vegetable Oil Products Co., Inc. A descriptive bulletin is available from Vopcolene Division, 5568 E. 61st St., Los Angeles 22, Calif.

AOCS Meeting

The American Oil Chemists' Society will hold its Annual Meeting at the Roosevelt Hotel, New Orleans, Louisiana, May first to third. T. H. Hopper, F.A.I.C., program chairman, announces that the technical sessions are open to anyone interested in fat and oil technology. Reservations may be sent to A. F. Freeman, Southern Regional Research Laboratory, New Orleans, La. Mr. Hopper, who is technical editor of the Society's publication, *Methods of Analysis*, indicates that the 1950 set of *Revisions* is now available for $1.00.

Dr. Gustav Egloff, Hon. AIC, spoke on "The Engineer's Place in the World", to the Junior Division of the Western Society of Engineers, Chicago, February 26th. He discussed "Modern Products from Petroleum," before the 4500 students of the Austin High School, Chicago, on February 28th.

For Your Library

Principles of Phase Equilibria

By F. E. Wetmore, Prof. of Chemistry, Univ. Toronto, and D. J. Leroy, Prof. of Chemistry Univ. Toronto. International Chemical Series, McGraw-Hill Book Co. 200*pp.* 6½" *x* 9½". $3.50.

Students of theoretical chemistry will find this text useful as introduction to the fundamental principles of heterogeneous equilibria. Expressed in terms of laboratory criteria, the exemplary systems of one, two, three and four are discussed in relation to other systems and the comprehensive nature of the phase rule explained.

While formal thermodynamics are not introduced in the text, the advanced student will find that many of the proofs cited can be so derived and an appendix provides the thermodynamic derivation of the phase rule and a discussion of free energy-composition curves with their relation to heterogeneous equilibria.

—Dr. Frederick A. Hessel, F.A.I.C.

Isomerism & Isomerization

By Ernest David Bergmann. Interscience Publishers. 138 *pp.* 6" *x* 9¼". $3.50

The Chemistry of Acetylene Compounds

By Ernest David Bergmann. Interscience Pulishers. 108 *pp.* 6" *x* 9¼". $3.00.

These two books from the Daniel Sieff Research Institute of Rehovot, Palestine, present a series of lectures delivered at the Polytechnic Institute of Brooklyn. They are excellent summaries in the fields of acetylene and olefin chemistry.

Introduction to Chemical Thermodynamics

By Luke E. Steiner. McGraw-Hill Book Co. 510 *pp.* 6" *x* 9". $6.25.

As a volume for advanced students, this book is rich in material. In line with most books on thermodynamics, it lacks the beauty of the systematic mathematical treatment. The student is given adequate material to reorganize the data into his own system of thermodynamics and to use the ingenuous methods evolved over the last hundred years.

—Dr. John A. Steffens, F.A.I.C.

Physical Chemistry of the Hydrocarbons. Vol. I.

Edited by Adalbert Farkas. Academic Press, Inc. 453 *pp.* $8.50.

Of genuine value to the petroleum chemist, this first volume has several outstanding sections with particularly good bibliographies. However, this reviewer regrets that certain other parts of the work are not as extensively annotated. The various chapters are The Chemical Bond in Hydrocarbon Molecules, Molecular Structure of Hydrocarbons, Mass Spectroscopy, Optical Properties, Optical Methods of Analysis, Electrical Properties, Solvent Extraction, Solid-Liquid Equilibria and Chemical Thermodynamics.

—Dr. Frederick A. Hessel, F.A.I.C.

Chemical Books Abroad

Rudolph Seiden, F.A.I.C.

J. F. Bergmann Verlag, Muenchen: *Lebensmitteltechnologie,* by Rudolf Heiss (1950, 344 pp., 223 ill., DM 27.60), deals with the production methods of the food and beverage industries, with emphasis on the varied types of equipment used. The illustrative drawings are exquisite.

Dr. Dietrich Steinkopff Verlag, Darmstadt: *Kunsteide und Stapelfaser,* by Arthur Zart (1950, 177 pp., 35 ill., DM 17.50), reviews the present status of rayon and other synthetic fibers in science and industry. Especially valuable are the extensive chapters on newer assay methods for laboratory use.

Springer-Verlag, Berlin W. 35: *Destiller-und Rektifiziertechnik, by Emil* Kirschbaum (2nd ed., 465 pp., 317 ill., DM 45.) A translation of the first edition of this basic book, published in Germany in 1939, appeared only recently in the United States. During the intervening years the author completely revised his work, bringing up-to-date the theory and practice of the distillation and rectification technique—a field in which he is an eminent authority. When we went to school together, Kirschbaum was an outstanding and liberal pupil; I understand that he now is an outstanding and liberal

professor at the Technical College in Karlsruhe, researcher and industrial consultant.

Verlag Chemie, Weinheim/Bergstrasse: *Gmelins Handbuch*, 8th ed. "Gmelin" is the classical handbook for inorganic chemistry and the counterpart to "Beilstein" (organic chemistry). Its first edition appeared in 1817. The current 8th edition was started in 1922, but many of its titles were destroyed during the last war. There are 71 system numbers for the various elements, with parts (A, B, C, etc) and further subdivisions wherever needed. It is hoped that this standard work for chemists, metallurgists, geologists, and physicists, of which about 35,000 pages have already been printed, will be completed in 10 to 12 years. Among the recently published parts of "Gmelin" are Ca: history (No. 28, A, 1—DM 28.50); Al-Fe-C-and Al-Fe-Si alloys (No. 35, A, 8—DM 30); Sb: metal (No. 18, A, 3—DM 16.50) and compounds (No. 18, B, 2 and 3—DM 84 and 25, respectively); Se: electrical properties (No. 10, A, 2—DM 28) and compounds (No. 10, B—DM 40); etc.

Ferdinand Enke- Verlag, Stuttgart-W: *Chemie und Technik der Vitamine, 1*, by Hans Vogel and Heinrich Knobloch (3rd ed., 485 pp., 25 ill., DM 48.60) is one of the best books on fat-soluble vitamins I have read. It contains thousands of literature and patent references reaching into 1950. I consider it indispensible for chemists engaged in vitamin research, manufacture or assaying • *Nitrocellulose*, by Karl Fabel (1950, 211 pp., 12 ill., DM 18.60), an up-to-date compilation of facts about the production of nitrocellulose, its properties and uses.

Carl Hanser Verlag, Muenchen 27: *Anorganische Technologie, 2*, by Karl Winnacker and Ernst Weingaertner (1950, 644 pp., 271 ill., DM 41). This is the second volume of the notable "Chemische Technologie" planned in 5 volumes which we recently discussed in this column. It describes S, P, N and their compounds, as well as compounds of Ca (including fertilizers, carbides, building materials), Cr, Mn, mineral colors and large-surface materials, such as activated charcoal, silicagel, alumina, etc. If the complete "Technologie" will be as excellent as is the inorganic part, it will have to be translated (with slight modifications) for American readers, or they will miss out on a truly modern and absorbing standard work.

Sir Isaac Pitman & Sons, London WC 21: *Tutorial Pharmacy*, by J. W. Cooper & Colin Gunn (4th ed., 670 pp., 18s), is a brief survey of pharmaceutical principles, processes and preparations, with a concise chapter on biological products and one (newly added) on dressings, ligatures and sutures. A few minor mistakes should be corrected in a revised edition—e.g., the definition of adsorption and the formula for sodium acetate.

Information

"Cold Steep Bleaching Process." Bulletin. Buffalo Electro-Chemical Co., Inc., Buffalo 7, N.Y.

"Annotated Bibliography on the Use of Organolithium Compounds in Organic Synthesis. Supplement No. 1. Metalloy Corp., Rand Tower, Minneapolis, Minn.

"Toxicology." 8-page booklet. Foster D. Snell, Inc., 29 West 15th St., New York 11, New York.

"Model 211 High Vacuum Disc Valves." F. J. Stokes Machine Co., 5900 Tabor Road, Philadelphia, Pa.

"UL Adapter for LV Models of the Brookfield Viscometer." Data Sheet 034. Brookfield Engineering Labs., Inc., Stoughton, Mass.

"Super Speed Air Motor." W. C. Richards, Jr., The Bellows Co., 222 W. Market St., Akron, Ohio.

"Grinding & Mixing Equipment." Bulletin 265. The U.S. Stoneware Company, Akron 9, Ohio.

"Report S-3, Stabilizers and Lubricants for Plastics," "Report M-11, Stearates for Protective Coatings," and "Report P-13, 24% Lead Naphthenate." Witco Chemical Co., 295 Madison Ave., New York 17, N.Y.

"Lead Stearates, Stabilizers and Lubricants for Polyvinyl Chloride Plastics." Witco Chemical Co., 295 Madison Ave., New York 17, N.Y.

"Heavy-Duty Alkaline Cleaning of Ferrous Metals." Special Chemicals Dept., Pennsalt Chemicals, 100 Widener Bldg., Philadelphia 7, Pa.

"Chemical Process and Plant Engineering." Bulletin X-1. R. S. Aries & Associates, 400 Madison Ave., New York 17, New York.

"New Condensed Catalog." Gardner Laboratory, Inc., Bethesda, Maryland.

"New RTH Soda Bleach Mix." Mathieson Chemical Corp., Mathieson Bldg., Baltimore 3, Md.

"Purification of Metal Salt Solutions with Hydrogen Peroxide." BECCO Sales Corp., Station B, Buffalo 7, N.Y.

"p-Nitrophenyl Phosphate." Sigma Chemical Co., 4648 Easton Ave., St. Louis, 13, Mo.

"What Users Say about Their Brookfield Viscometers." Brookfield Engineering Laboratories, Inc., Stoughton, Mass.

"d-Trehalose. Glucose Disaccharide." Schwartz Laboratories, Inc., 202 E. 44th St., New York 17, N.Y.

"Gauge Rite Air Test." New Product. Marbro Mfg. Co., Dept. SSS, 1620 Lee Rd., Cleveland 18, Ohio.

"New Conax Thermocouple Gland." Conax Sales Co., Inc., Kenmore 17, N.Y.

"Centrifuges". Bulletin 1259. The Sharples Corp., 2300 Westmoreland St., Philadelphia 40, Pa.

"Research Facilities Without Capital Investment." 20-page brochure. Foster D. Snell, Inc., 29 West 15th St., New York 11, N.Y.

"New Sulfuric Acid Manufacturing Process." Chemical Construction Corp., 488 Madison Ave., New York, N.Y.

"Thirty-one Patents and Patent Applications Released for Public Use by the U.S. Atomic Energy Commission. "No. 343. U.S. Atomic Energy Commission, Washington 25, DC.

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British Industries Fair

The British Industries Trade Fair, a service by manufacturers for buyers, will be held April 30th to May 11th. Heavy industry will be centered in Birmingham, England, and the other trades will be on display in London. Information may be obtained from the British Consul in many U.S. cities, or from British Information Services, 30 Rockefeller Plaza, New York 20, N.Y.; 39 South LaSalle St., Chicago 3, Illinois 901-905 National Press Building, Washington 5, D.C., or 310 Sansome St., San Francisco 4, Calif.

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One large company, whose annual research budget is substantial, estimates that for each $1,000 spent by its research and development group over the past ten years, there has resulted a savings on royalties of $3,700; improvement in existing processes and products amounting to $9,600; new processes and products amounting to $2,100. A total of $15,400 for each $1.00 invested.

—*The Research Viewpoint*

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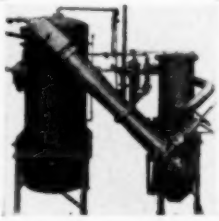

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THE CHEMIST on Microfilm

Subscribers to THE CHEMIST, who have space or storage problems, can now obtain microfilm copies of this publication from University Microfilms, 313 N. First Street, Ann Arbor, Michigan. Volume XXVI, Nos. is now available at $1.50. Also the 1950 Volume is now ready.

National Council Meetings

A meeting of the National Council will be held during the AIC Annual Meeting at the General Brock Hotel, Niagara Falls, Ontario, on

May 10, 1951

The June meeting of the Council will be held at the Chemists' Club, New York, N.Y., on

June 13, 1951

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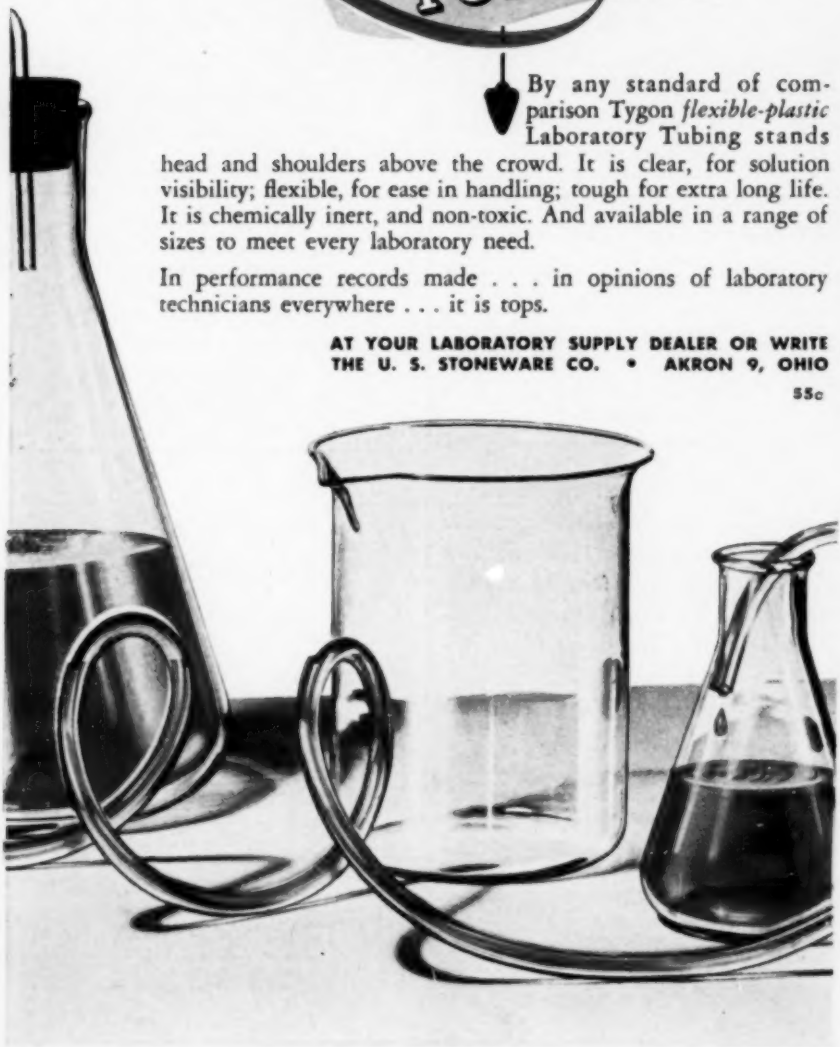
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